these investigations is simply a bit of new territory pertaining to the intimate life of the cells, and we find here, as whenever we are able to penetrate deeper into this life, that there comes a flood of new light into every department of biology. The researches on immunity, which to some of short vision once seemed to threaten the foundations of cellular pathology, have served only to strengthen them. These researches, which have already led to the saving of thousands of human lives, and will lead to the saving of untold thousands more, have been carried on by the experimental method, and can be conducted in no other way. This method is as essential for the advancement of medical science as for that of any of the natural or physical sciences. To restrict unnecessarily and unjustifiably its use is nothing short of a crime against humanity. It is an evidence of the robust vitality of English physiology and medicine that in spite of unwarrantable obstacles thrown in their path their contributions to science in recent years have been so numerous and so important. The influence of English thought and action is great with us in America. See to it, my colleagues and men of science in the British Isles, that you retain for yourselves and hand down to your successors, at least without further impairment, the means of promoting medical knowledge and thus of benefiting mankind.

WILLIAM H. WELCH.
JOHNS HOPKINS UNIVERSITY.

SCIENTIFIC BOOKS.

International Catalogue of Scientific Literature; first annual issue—M, Botany. Published for the International Council by the Royal Society of London. London, Harrison & Sons, 45 St. Martin's Lane. Vol. I., Part I. May, 1902.

For some years the Royal Society has had under consideration the preparation of a complete index of current scientific literature, which now has materialized to the extent of a thick pamphlet of 378 pages, designated as 'part I., of volume I.' The part before us is devoted to botany, and from it we may make an estimate of the probable value of the complete work. The preface discusses the magnitude of the undertaking, and the inadequacy of a mere authors' catalogue, scientific workers needing subject indexes as well. This task being far greater than the Royal Society alone could undertake, international cooperation was sought, resulting in a conference of delegates in London, July, 1896. At this conference 'it was unanimously resolved that it was desirable to compile and publish, by means of an international organization, a complete catalogue of scientific literature, arranged according both to subject matter and to authors' names, in which regard should be had, in the first instance, to the requirements of scientific investigators, so that these might find out, with a minimum of trouble, what had been published on any particular subject of inquiry.'

Subsequent conferences were held in 1898 and 1900, the result being the appointment of an international council, the establishment of a central bureau in London, and the undertaking of the Royal Society to act as the publishers of the catalogue on behalf of the council. Provision is made for an international convention, which is to have supreme control over the catalogue, and which is to meet in 1905, and again in 1910, and every tenth year afterwards. It is to 'reconsider, and if necessary, to revise the regulations for carrying out the work of the catalogue.'

Seventeen branches of science are to be included in the whole catalogue, and these are arranged under the letters of the alphabet as follows: A, mathematics; B, mechanics; C, physics; D, chemistry; E, astronomy; F, meteorology; G, mineralogy; H, geology; J, geography; K, paleontology; L, general biology; M, botany; N, zoology; O, human anatomy; P, physical anthropology; Q, physiology; R, bacteriology. In this scheme physiology is made to include experimental psychology, pharmacology and experimental pathology. "Each complete annual issue of the catalogue

will thus consist of seventeen volumes." It is further stated that the price is to be £18 for the set, with varying prices for individual volumes, from ten to thirty-five shillings.

An examination of the present volume shows that the scheme of classification differs materially from that followed commonly in this country. Numbers of four figures, from 0000 to 9999, are assigned to subdivisions of the subject as follows: 0000 to 0999, general (including philosophy, history, biography, periodicals, etc., general treatises, addresses, pedagogy, institutions, nomenclature); 1000 to 1999, external morphology and organogeny (including teratology); 2000 to 2999, anatomy, development and cytology; 3000 to 3999, physiology; 4000 to 4399, pathology; 4400 to 4999, evolution; 5000 to 7999, taxonomy; 8000 to 8999, geographic distribution; 9000 to 9999, plankton. Ecology (spelled 'oecology') appears as an item under physiology, coordinate with growth, irritability, symbiosis, parasitism, etc. Paleobotanical papers are to be distributed under their appropriate heads and marked with a dagger (†). The pages devoted to the scheme of classification are printed in English, French, German and Italian. Following these is a topographical classification, for use in geography, geology, botany, zoology, etc., and which is apparently as satisfactory as any which might be adopted, although open to some criticism in details.

The authors' catalogue covers eighty-four pages, and includes 1,922 entries. This is followed by the subject catalogue, in which the arrangement outlined above is followed. This part of the book requires 240 pages, and apparently includes many titles not entered in the first list. As these are all papers published in the year 1901, and as we are promised a second part of the botany volume 'in the course of a few months,' it will be seen that the need of such a work as this is imperative.

In some quarters there appears to be a disposition to find fault with this catalogue on account of alleged sins of omission and commission, and also in regard to its plan of classification and some of its details. While there may be truth in these criticisms, it should be borne in mind that, in part, they come from those who are not experts in bibliography, and who are, therefore, not fully conversant with the difficulties of a complete classification. It will be well for us to remember that it is much easier to find faults in any proposed system than to suggest one which will not contain as many objectionable features. No doubt this catalogue will be of great value to scientific workers. Let us be thankful for it; let us buy it; let us use it; and let us trust that year by year it may grow better. Even if not quite what many of us desire, it is a very good piece of work —better, no doubt, than we ourselves could have made it.

Charles E. Bessey.
The University of Nebraska.

Catalogue of the Crosby Brown Collection of Musical Instruments of All Nations. I. Europe. New York, The Metropolitan Museum of Art. 1902. 8vo. Pp. xxxv + 302; pl. 53.

Some months ago (Science, June 13, 1902) attention was directed to the first part of a catalogue of the 2,800 musical instruments in the New York Museum. The catalogue of the European instruments, apparently about a thousand in number, has just been published and proves to be a remarkably fine piece of work. In the preparation of it Mrs. Brown has had the assistance of Mr. A. J. Hipkins and Rev. F. W. Galpin, both of England, whose previously published works show that no more competent authorities in England or America could have been called in. The former was associated in several investigations with the late A. J. Ellis, the translator of Helmholtz, and has written much on the history of the piano, etc.; and both have cooperated in the historical exhibitions that have taken place in England. For this catalogue Mr. Hipkins wrote a special introduction to the keyboard instruments, while Mr. Galpin identified many of the instruments, made the classification, wrote the prefaces to its several parts and added many notes.

The classification impresses the reader as simple and practical: it begins with 'Class